

Cutaneous leishmaniasis as an increasing threat for Iranian travellers attending religious ceremonies

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Abstract

Background: The Islamic Republic of Iran is one of the most important endemic foci of cutaneous leishmaniasis in the world. Annually, a large number of Iranian Shia pilgrims travel to Iraq from this area in order to participate in one of their most important religious ceremonies. This trip has coincided with the seasonal activity of sand flies in recent years. So, cutaneous leishmaniasis could be a serious threat for pilgrims on these trips.

Aims: To report cases of cutaneous leishmaniasis among Iranian Shia pilgrims attending a religious ceremony in Iraq during 2017.

Methods: Sixteen patients were referred to our laboratory in the Department of Parasitology and Mycology at Qazvin University of Medical Sciences. Dermal scrapings and stained slides prepared of skin lesions were used to morphological diagnosis. DNA extraction and PCR amplification were optimized to identification of *Leishmania* species.

Results: All of the patients were infected with cutaneous leishmaniasis in microscopic survey. *L. major* was detected by molecular approach. The number of lesions observed in patients were 1 (31%), 2 (25%), and ≥ 3 (44%).

Conclusions: Since a large number of Shia Muslims participate in the annual religious ceremonies, serious measures must be taken to prevent the disease.

Keywords: cutaneous leishmaniasis, Islamic Republic of Iran, Mehran, pilgrims, travelers

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Introduction

Leishmaniasis is an important parasitic disease with a diverse spectrum of clinical syndromes, such as cutaneous leishmaniasis (CL), and visceral leishmaniasis (VL) (1). Some cutaneous lesions can be self-healing. CL considered as an important public health problem when the lesions are presented for a long period, with persistent ulcers, and secondary bacterial infections causing heavy treatment cost and complications of drug therapy (2–4). Etiologic agent of CL is species of *leishmania* genus, an obligate intracellular protozoan parasite of mononuclear phagocytes in vertebrate hosts (5). Up to now, more than 30 species of *Leishmania* have been detected, At least 20 species of parasite can be infected humans (6,7). Female phlebotomine sand flies are vector of the parasite in tropical and subtropical regions. CL are distributed about 95% in South and Central America, Mediterranean, Middle East and Central Asia (8,9). The disease was reported from more than 98 countries in the world, in which the most important endemic foci in old world including; Afghanistan, Algiers, Islamic Republic of Iran, Saudi Arabia and Syria, and in the new world, Brazil, Colombia and Peru countries (10,11). CL is common in Islamic Republic of

Iran with both shape of Anthroponotic Cutaneous Leishmaniasis (ACL) and Zoonotic Cutaneous Leishmaniasis (ZCL), caused by *Leishmania tropica* and *Leishmania major*, respectively (12). Up to now, CL is endemic in 17 provinces of 31 provinces of Islamic Republic of Iran, with the majority of ZCL (11). In spite of, the prevalence of human parasitic infections, especially soil transmitted helminthes have remarkably decreased in Islamic Republic of Iran (13), but ZCL is expanding in the country and new foci of infection have been reported in recent years (14–19). It seems that migrating rodent reservoirs to new areas is a possible major cause of wide spreading of CL in Islamic Republic of Iran. Annually, about 20,000 of new cases of CL are recorded in the country, in which the real number of patients are multiplied estimated (20). Also, CL epidemic have been reported from Islamic Republic of Iran in the recent decades (21,22).

Residents of non-endemic areas of CL in Islamic Republic of Iran are the population at risk for this disease when travel to endemic areas during seasonal activity of sand flies. Ilam province is one of the 31 provinces of Islamic Republic of Iran, and also the province is one of important endemic foci of CL that is located in west of Islamic Republic of Iran and in the neighborhood of